

Claims

1 1. A method for reworking an electronic component with copper or copper/nickel
2 pads containing a nickel layer and an overlying gold layer comprising the steps of:
3 supplying an electronic component having copper or copper/nickel pads thereon
4 containing a nickel layer and an overlying gold layer;
5 etching the gold layer on the component pads;
6 etching the nickel layer on the component pads;
7 treating the etched component to remove products formed during the etching steps
8 and corrosion products; and
9 plating the restored copper surface with a nickel layer followed by a gold layer.

1 2. The method of claim 1 wherein the pads on the treated component are restored
2 to their original condition by media blasting.

1 3. The method of claim 2 wherein the gold layer is etched using a cyanide
2 containing solution.

1 4. The method of claim 3 wherein the nickel layer is etched using an alkaline
2 oxidizer containing solution having a pH greater than about 12.0.

1 5. The method of claim 4 wherein the etched component is treated using a
2 cyanide containing solution.

1 6. An apparatus for reworking an electronic component with copper or copper/nickel
2 pads containing a nickel layer and an overlying gold layer comprising:

3 supplying means to supply an electronic component having copper or copper/nickel
4 pads thereon containing a nickel layer and an overlying gold layer;
5 etching means to etch the gold layer on the component pads;
6 etching means to etch the nickel layer on the component pads;
7 treating means to remove products formed during the etching steps and corrosion
8 products from the etched component; and
9 plating means to plate the restored copper or copper/nickel pad surface with a nickel
10 layer and an overlying gold layer.

1 7. The apparatus of claim 6 wherein the pads on the treated component are
2 restored to their original condition by media blasting.

1 8. The apparatus of claim 7 wherein the gold layer etching means is a cyanide
2 containing solution.

1 9. The apparatus of claim 8 wherein the nickel layer etching means is an alkaline
2 oxidizer containing solution having a pH greater than about 12.0.

1 10. The apparatus of claim 9 wherein the treating means is a cyanide containing
2 solution.

1 11. A reworked electronic component made using the method of claim 1.

1 12. A reworked electronic component made using the method of claim 2.

1 13. A reworked electronic component made using the method of claim 3.

1 14. A reworked electronic component made using the method of claim 4.

1 15. A reworked electronic component made using the method of claim 5.